

Application No.: 10/085,340

S. Mellor et al.

Response to Office Action and Request for Reconsideration

REMARKS

In paragraph 3 of the Office Action mailed February 9, 2006 the Examiner rejected all pending claims, Claims 1-4, 8-10, 15, and 17, under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,594,508 to Ketonen ("Ketonen") in view of U.S. Patent No. 6,298,243 to Basile ("Basile").

The Law of Obviousness

In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

"First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined), must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure." M.P.E.P. § 2142.

As explained above, the Office Action makes a Section 103 rejection by combining two references (*i.e.*, prior art), Ketonen and Basile. Because a modification to the prior art is required to support this 35 U.S.C. § 103 rejection, an appropriate motivation to modify must be set forth in order to establish a *prima facie* case of obviousness. See, *In re Fritch*, 972 F.2d 1266 (Fed. Cir. 1992)

In the Office Action, the Examiner presents a motivation to combine these references.

"Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Basile to said device of Ketonen in order to cut costs by using less expensive feeder lines."

I. No motivation to combine references

M.P.E.P. § 2143.01 states: "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teaching of the references are not sufficient to render the claims *prima facie* obvious."

Basile teaches a combined cellular and GPS antenna that provides both cellular transmit/receive functions as well as GPS reception. Such antenna, as described by Basile, can only be used for reception of GPS signals due to incorporation of low noise amplifier (LNA) 408 and diplexer 404. Basile does not teach a need for transmitting in GPS frequency band as such transmission would be useless at best and illegal in light of FCC regulations. Furthermore, Basile reference refers to a mobile antenna for use in vehicle which provides no motivation to combine the return loss detector 304 of Ketonen as such system requires a forward power detector 404 to measure in band power signal S1 which is proportional to the power level of the transmitted signal TX traveling to the GPS patch antenna as well as reverse power detector 406 that generates a reflected power signal S2 proportional to the power level of the reflected signal from the GPS antenna.

Ketonen teaches a system and method that is capable of providing one monitoring function (antenna return loss) per antenna system based on the presence of transmit signal only (col. 6, lines 16-29). If transmit signal (S1 forward power signal) is absent then return loss tuning signal S3 would be absent as well as there would be no forward (S1) nor reflective signals (S2). Therefore, if Ketonen system is implemented in Basile antenna such implementation would require a GPS band TX signal to generate respective S1 and S2 power signals for creation of S3 tuning signal representing GPS antenna return loss.

Additionally, such combination would result in two CW signals (one for GPS and one for cellular band operation) coupled onto a common feeder cable as taught by Ketonen (col. 6. lines 43-48). In a more complex systems where there are more than two bands or radiating elements present would result in numerous CW signals for use

with Ketonen system return loss recovery system. This in itself requires careful spectrum management as well as known to the one skilled in the art that presence of multiple carrier signals may result in intermodulation products that may cause harmful interference to the receiver(s).

In addition, Ketonen teaches a use of an extracted carrier signal CW that is used as an input to a phase locked loop (PLL) 412. In such monitoring system, as taught by Ketonen, is only capable of reporting one operating parameter (antenna return loss) while transmitting signal TX, from BTS, is present.

Any combination of these references would substantially change the principles of operation of the prior art. The Applicant respectfully submits that there is can be no motivation found to combine these references, either in the references themselves or the ordinary level of skill in the art at the time of the invention.

II. No reasonable expectation of success.

The second prong of a *prima facie* case of obviousness requires a reasonable expectation of success. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure." M.P.E.P. § 2142.

Even if these references were combined, albeit improperly, they would have no reasonable expectation of success. As described above the proposed combination may result in harmful radio frequency interference and could create significant spectrum management issues. Additionally, since the proposed combination would require a transmitter capable of GPS band transmission, the proposed combination may result in a device that cannot presently be used in many regulatory environments such as the United States. This proposed combination clearly does not provide the necessary reasonable expectation of success.

In the rejection of independent claims 1 and 15, the Examiner asserts that most of the claim elements are disclosed by Ketonen but acknowledged that Ketonen does

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not teach multiple radiation elements and receiving an input signal from the multiple radiation elements over a common feeder cable. The Examiner asserts that

“Basile teaches multiple radiation elements, receiving data signals from multiple radiation elements and producing an input signal adapted to be transmitted over a common feeder cable, wherein the data signals include values representing operating parameters of devices at the multiple radiation elements (see ABSTRACT and col. 4, lines 11-17), and receiving the input signal from the multiple radiation elements over the common feeder cable (see ABSTRACT and col. 3, lines 51-58).”

Applicants respectfully traverse the rejection. As discussed above, the proposed combination is improper since there is no motivation to combine references and even if they were combined, albeit improperly, there would be no reasonable expectation of success. The Applicant respectfully submits that the rejection to independent claims 1 and 5 is traversed. Because claims 2-4 depend from independent claim 1 it is respectfully submitted that the rejection of dependent claims 2-4 has been traversed by virtue of their dependency from independent claim 1. M.P.E.P § 2143.03. The Applicant therefore respectfully requests the Examiner reconsider and withdraw these rejections.

In the rejection of independent claims 8 and 17 the Examiner relies on Basile to teach missing elements from the Ketonen reference the Examiner asserts that:

“Ketonen does not teach multiple radiation element. Basile teaches multiple radiation elements, receiving data signals that include control signals representing operating parameter settings for devices at multiple radiation elements and producing an input signal to be transmitted over a common feeder cable (see ABSTRACT and col 4, lines 11-17), and receiving the input signal over the common feeder cable (see ABSTRACT and col. 3, lines 51-58).”

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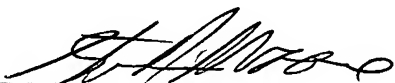
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Applicants respectfully traverse the rejection. As discussed above, the proposed combination is improper since there is no motivation to combine references and even if they were combined, albeit improperly, there would be no reasonable expectation of success. The Applicant respectfully submits that the rejection to independent claims 8 and 17 is traversed. Because claims 9-10 depend from independent claim 8 it is respectfully submitted that the rejection of dependent claims 9-10 has been traversed by virtue of their dependency from independent claim 8. M.P.E.P § 2143.03 The Applicant therefore respectfully requests the Examiner reconsider and withdraw these rejections.

Conclusion

Applicant believes that this Response has addressed all items in the Office Action and now places the application in condition for allowance. Accordingly, favorable reconsideration and allowance of claims 1-4, 8-10, 15 and 17 at an early date is solicited. Should any issues remain unresolved, the Examiner is invited to telephone the undersigned.

Respectfully submitted,
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